

CLAIM AMENDMENTS

Claim 1

Cancel claim 1.

Claim 2

Cancel claim 2.

Claim 3

Cancel claim 3.

Claim 4

Cancel claim 4.

Claim 5

Line 2, after "claim" delete "1" and insert - 24 - .

Line 3, after "and" delete "electrically conductive" and insert - adhesion promoting - .

Claim 6

Line 2, after "claim" delete "2, or 3, or 4" and insert - 25, or 26, or 27 - .

Line 3, after "and" delete electronically conductive" and insert - adhesion promoting - .

Claim 7

Line 2, after "claims" delete "1, or 2, or 3, or 4" and insert - 24, or 25, or 26, or 27 - .

Claim 12

Line 2, after "claim" delete "1, or 2, or 3, or 4" and insert - 24, or 25, or 26, or 27 - .

Claim 13

Line 2, after "claim" delete "1, or 2, or 3, or 4," and insert - 22, or 25, or 26, or 27 - .

Claim 15

Line 2, after "a" insert -solid -.

Claim 16

Line 2, after "expanded" insert - solid -.

Claim 17

Line 1, after "perforated" insert -solid -.

Claim 19

Line 3, after "and" delete "electrically conductive" and insert - adhesion promoting-.

Add new claims 24, 25, 26 and 27 as shown below.

CLAIMS

Claim 1 (canceled)

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 24, in which said length of said grid is treated by a solvent resistant and adhesion promoting primer, prior to said dip-coating.

Claim 6 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 25, or 26, or 27, in which said length of said foil is treated by a solvent resistant and adhesion promoting primer, prior to said dip-coating.

Claim 7 (currently amended) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 24, or 25, or 26, or 27, in which said slurry includes at least two solvents of different evaporation rate, an active material, a carbon black and a polymer binder.

Claim 8 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 7, in which said solvents include acetone in the range of 42 to 54 weight % (percent) and N-methylpyrrolidinone in the range of 6 to 23 weight % (percent), said polymer binder is polyvinylidene fluoride homopolymer in the range of 1 to 8 weight % (percent), said active material is in the range of 24 to 37 weight % (percent), and said carbon black is in the range of 1 to 8 weight % (percent).

Claim 9 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 5, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black.

Claim 10 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 5, in which said primer is a mixture of a carbon black and a solution of polyvinylidene fluoride homopolymer in at least two solvents.

Claim 11 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 5, in which said length has masked areas of intended terminal tabs by solvent resistant adhesive tapes, prior to said primer treatment, and said adhesive tapes are removable.

Claim 12 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 24, or 25, or 26, or 27, which additionally includes an electrode cleaning step of intended terminal tabs area by buffing and vacuuming after said coating.

Claim 13 (currently amended) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 24, or 25, or 26, or 27, which additionally include an electrode cleaning step of the intended terminal tab area by sand blasting and vacuuming after said coating.

Claim 14 (previously presented) :

Manufacturing method for lithium based electrochemical devices and capacitors, as described in claim 5, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black, and a said length is dip-coated by said primer and is pulled over a roller horizontally after dipping while hot air is applied on said coating.

Claim 15 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors, which includes a solid metal grid and an electrode material coating on said grid, the improvement therein said grid is embedded in the middle of said coating by a dip-coating method.

Claim 16 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors, which includes an expanded solid metal foil, and an electrode material coating on said foil, the improvement therein said foil is embedded in the middle of said coating by a dip-coating method.

Claim 17 (currently amended) :

Electrode structure lithium based electrochemical devices and capacitors,
which includes a perforated solid metal foil and an electrode material coating on said foil, the improvement therein said foil is embedded in the middle of said coating by a dip-coating method.

Claim 18 (previously presented) :

Electrode structure for lithium bases electrochemical devices and capacitors,
which includes a solid metal foil and electrodes material coating on said foil,
the improvement therein said foil is embedded in the middle of said coating by a dip-coating method.

Claim 19 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors,
as described in claim 15, or 16, or 17, or 18 , in which said grid or foil is treated by a solvent resistant and adhesion promoting primer before said coating.

Claim 20 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black.

Claim 21 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a carbon black and a solution of polyvinylidene fluoride homopolymer in at least two solvents.

Claim 22 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said length has masked areas of intended terminal tabs by solvent resistant adhesive tapes, prior to said primer treatment, and said adhesive tapes are removable.

Claim 23 (previously presented) :

Manufacturing method for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black, and a said length is dip-coated by said primer and is pulled over a roller horizontally after dipping while hot air is applied on said coating.

Claim 24 (new) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, in which a length of a metal grid is dip-coated by an active material slurry, and said length is then pulled vertically upward through a solidification chamber, in which said dip-coating is solidified, and in which said dip-coating is produced in a dip-coater having feed end and receiving end, and a drive system by which said length's speed is controlled at said feed end by driven nip-rollers, and by which said coated length is wound onto a spool at said receiving end by an overdrive system with a slip clutch.

Claim 25 (new) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, in which a length of an expanded metal foil is dip-coated by an active material slurry, and said length is then pulled vertically upward through a solidification chamber, in which said dip-coating is solidified, and in which said dip-coating is produced in dip-coater having feed end and receiving end, and a drive system by which said length's speed is controlled at said feed end by driven nip-rollers, and by which said coated length is wound onto a spool at said receiving end by an overdrive system with a slip clutch.

Claim 26 (new) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, in which a length of a perforated metal foil is dip-coated by an active material slurry, and said length is then pulled vertically upward through a solidification chamber, in which said dip-coating is solidified,

and in which said dip-coating is produced in a dip-coater having feed end and receiving end, and a drive system by which said length's speed is controlled at said feed end by driven nip-rollers, and by which said coated length is wound onto a spool at said receiving end by an overdrive system with a slip clutch.

Claim 27 (new) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, in which a length of a solid metal foil is dip-coated by an active material slurry, and said length is then pulled vertically upward through a solidification chamber, in which said dip-coating is solidified,

and in which said dip-coating is produced in a dip-coater having feed end and receiving end, and a drive system by which said length's speed is controlled at said feed end by driven nip-rollers, and by which said coated length is wound onto a spool at said receiving end by an overdrive system with a slip clutch.